

CLAIMS

1. A method for performing a cashless payment transaction using a mobile terminal having an image output device and an identifying identifier, a trader station having an image reading device and a central station connected to the  
5 trader station via a data network, the method comprising the steps of:
  - displaying graphically coded output information, via the image output device, suitable for authenticating a user;
  - reading the graphically coded output information into the trader station by an image reading device;
- 10 transforming the graphically coded output information into a digital code;  
and  
authenticating the digital code by the central station.
2. A method for performing a cashless payment transaction as claimed  
15 in Claim 1, the method further comprising the step of producing the graphically coded output information from at least one of a PIN number, an identification number stored on an SIM card in the mobile terminal, and a telephone number.
3. A method for performing a cashless payment transaction as claimed  
20 in Claim 1, the method further comprising the steps of:
  - setting and storing an electronic credit in a credit memory in the central station;
  - triggering a coding algorithm in an encryption device in the mobile terminal to produce the digital code;
- 25 converting the digital code into the graphically coded output information via a conversion device;
- using the image reading device to read the graphically coded output information;
- transmitting the digital code to the central station together with a sum to be  
30 paid;

- triggering an inverse coding algorithm in a decryption device in the central station to decrypt the digital code into user information;
- comparing the user information with authentication information stored in a user memory; and
- 5 triggering a confirmation signal, performing a decimation function for the electronic credit by the sum received via a decimation device, and storing the credit balance in the credit memory if authentication has occurred.
4. A method for performing a cashless payment transaction as claimed  
10 in Claim 3, wherein a confirmation function is triggered after the decimation function has been performed, and the confirmation function is transmitted to the trader station.
5. A method for performing a cashless payment transaction as claimed  
15 in Claim 1, wherein the graphically coded output information is displayed on the image output device of the mobile terminal as a bar code, which may be a two-dimensional bar code.
6. A method for performing a cashless payment transaction as claimed  
20 in Claim 1, wherein the image reading device is a bar code scanner.
7. A method for performing a cashless payment transaction as claimed  
in Claim 1, wherein the graphically coded output information is displayed on the image output device in a stipulated time interval of 2 to 5 seconds.  
25
8. A method for performing a cashless payment transaction as claimed  
in Claim 1, wherein the mobile terminal is a mobile radio terminal.
9. A method for performing a cashless payment transaction as claimed  
30 in Claim 1, wherein the mobile terminal is a PDA.

5        10. A method for performing a cashless payment transaction as claimed in Claim 1, wherein the graphically coded output information is produced using an asymmetric encryption protocol, which is one of an RSA protocol and an ECC protocol.

10      11. A mobile terminal for performing a cashless payment transaction, comprising an encryption device for encrypting user information into a digital code, the user information including at least one of a PIN number, an identification number stored on an SIM card in the mobile terminal and a telephone number.

15      12. A central station for performing a cashless payment transaction, comprising:  
                a credit memory for storing an electronic credit associated with a user;  
                a user memory for storing at least one item of authentication information associated with the user, the authentication information including at least one of a PIN number, an identification number stored on an SIM card in the mobile terminal and a telephone number;  
                a decryption device for decrypting a digital code received from a trader station into user information;  
                a comparator device for comparing the authentication information stored in the user memory with the user information decrypted by the decryption device, and for triggering a confirmation signal from a confirmation device if authentication has occurred; and  
                a decimation device for decimating the electronic credit by a sum received from the trader station in response to the confirmation signal.